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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

SUNDARARAJAN SVIRAM

Serial No. 10/606,816 (TI-28564A)

Filed June 26, 2003

For: COMMA FREE CODES FOR FAST CELL SEARCH
USING TERTIARY SYNCHRONIZATION CHANNEL

Art Unit 2617

Examiner Elisio Ramos Feliciano

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Jav M. Cantor, Reg. No. 19,906

Sir:

BRIEF ON APPEAL

REAL PARTY IN INTEREST

The real party in interest is Texas Instruments Incorporated, a Delaware corporation with offices at 7839 Churchill Way, Dallas, Texas 75251.

RELATED APPEALS AND INTERFERENCES

There are no known related appeals and/or interferences.

STATUS OF CLAIMS

This is an appeal of claims 1 to 5 and 13 to 17, all of the rejected claims. No claims have been allowed and claims 6 to 12 and 18 to 24 have been canceled since they are the subject of a copending application and patent. Please charge any costs to Deposit Account No. 20-0668.

STATUS OF AMENDMENTS

An amendment was not filed after final rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

The invention relates to a cell search method for wideband code division multiple access (WCDMA) communication system using primary (first), secondary (second) and tertiary (third) synchronization codes.

Claim 1 requires the steps of receiving a frame of data having a predetermined number of time slots, each time slot being adjacent to another time slot, receiving a plurality of data symbols in each respective time slot and receiving each of a primary, a secondary and a tertiary synchronization code over respective adjacent channels during a first symbol time in each of the predetermined number of time slots (page 6, lines 22ff).

Claim 5 further requires that a mobile receiver identify a first time slot of the frame by the tertiary synchronization code.

Claim 13 requires the steps of transmitting a frame of data having a predetermined number of time slots, each being adjacent to another time slot, transmitting a plurality of data symbols in each of the time slots and transmitting a primary, a secondary and a tertiary synchronization code

over respective adjacent channels during a first symbol time in each of the time slots (page 6, lines 22ff).

Claim 17 requires that the tertiary synchronization code order correspond to an order of time slots in the frame.

GROUND OF REJECTION

Claims 1 to 5 and 13 to 17 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of Patent No. 6,665,277.

Claim 1 to 5 and 13 to 17 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of copending application Serial No. 10/658,902.

Claim 1 to 4 and 13 to 16 were rejected under 35 U.S.C. 102)(e) as being anticipated by Nystrom et al. (U.S. 6,185,244).

Claims 5 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nystrom et al.

ARGUMENT

Claims 1 to 5 and 13 to 17 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of Patent No. 6,665,277 and were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of copending application Serial No. 10/658,902. The rejection is without merit.

With respect to the issue of double patenting, the feature of transmitting a primary, a secondary and a tertiary synchronization code over respective adjacent channels during a first

symbol time in each of the time slots is never claimed in the issued patent or pending application and is a patentable feature separate and distinct from the inventions claimed in the patent and pending application. As stated at page 7, lines 8ff, these comma free code words are sufficient to uniquely identify one of sixteen groups of sixteen long codes or scrambling codes transmitted by a base station. Claim 13 sets forth the same feature, but for a method of transmitting rather than receiving. It follows that all of the claims herein define patentably over the claims of the above noted issued patent and pending application.

Claim 1 to 4 and 13 to 16 were rejected under 35 U.S.C. 102)(e) as being anticipated by Nystrom et al. (U.S. 6,185,244). The rejection is without merit.

Each of claims 1 and 13 requires the step of transmitting a primary, a secondary and a tertiary synchronization code over respective adjacent channels during a first symbol time in each of the time slots. No such feature is taught or even remotely suggested by Nystrom et al. A reading of Nystrom et al. relative to the figures cited in the rejection nowhere mentions a third synchronization code, let alone a third synchronization code in the same time slot with the first and second synchronization codes. It is respectfully submitted that Fig. 16 of Nystrom et al. shows only a first and second (PSC and SSC) synchronization code. Nothing else in Nystrom et al. is stated to be a synchronization code. Furthermore, three separate and distinct synchronization codes as claimed are nowhere found in the same slot in Nystrom et al. as required by the claims of the subject application.

Referring Figs. 16 to 20 of Nystrom et al., it is clear that only the prior art PSC (primary synchronization code) and SSC (secondary synchronization code) is present. There is no tertiary synchronization code present. Timing signals (STI), (FTI) and (LCI) are not synchronization codes. It follows that the feature of claim 1 of "receiving each of a primary, a secondary and a tertiary

synchronization code over respective adjacent channels during a first symbol time in each of said predetermined number of time slots” is not found in Nystrom et al., nor is the feature of claim 13 “transmitting a primary, a secondary and a tertiary synchronization code over respective adjacent channels during a first symbol time in each of said time slots”.

Claims 2 to 5 and 14 to 17 define patentably over Nystrom et al. for at least the reasons presented above with reference to the claims from which they depend.

In addition, claims 2 further limits claim 1 by requiring that the secondary and the tertiary synchronization codes identify a subset of codes. No such combination is taught or suggested by Nystrom et al. since there is no tertiary synchronization code in Nystrom et al.

Claim 3 further limits claim 2 by requiring that the secondary and tertiary synchronization codes be formed from a predetermined order of synchronization code elements, the predetermined order corresponding to the subset of codes. No such combination is taught or suggested by Nystrom et al. since there is no tertiary synchronization code in Nystrom et al.

Claim 4 further limits claim 1 by requiring that the secondary and tertiary synchronization codes be formed from a predetermined order of common synchronization code elements. No such combination is taught or suggested by Nystrom et al. since there is no tertiary synchronization code in Nystrom et al.

Claim 14 further limits claim 17 by requiring that the secondary and the tertiary synchronization codes identify a subset of codes. No such combination is taught or suggested by Nystrom et al. since there is no tertiary synchronization code in Nystrom et al.

Claim 15 further limits claim 14 by requiring that the secondary and tertiary synchronization codes be formed from a predetermined order of synchronization code elements, the predetermined

order corresponding to the subset of codes. No such combination is taught or suggested by Nystrom et al. since there is no tertiary synchronization code in Nystrom et al.

Claim 16 further limits claim 13 by requiring that the secondary and tertiary synchronization codes be formed from a predetermined order of common synchronization code elements. No such combination is taught or suggested by Nystrom et al. since there is no tertiary synchronization code in Nystrom et al.

Claims 5 and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nystrom et al. The rejection is without merit.

Claims 5 and 17 depend from claims 1 and 13 respectively and therefore define patentably over Nystrom et al for at least the reasons presented above with reference to claims 1 and 13.

In addition, claim 5 further limits claim 1 by requiring that a mobile receiver identify a first time slot of the frame by the tertiary synchronization code. No such combination is taught or suggested by Nystrom et al. since there is no tertiary synchronization code in Nystrom et al.

Claim 17 further limits claim 13 by requiring that the tertiary synchronization code order corresponds to an order of time slots in the frame. No such combination is taught or suggested by Nystrom et al.

CONCLUSIONS

For the reasons stated above, reversal of the final rejection and allowance of the claims on appeal is requested that justice be done in the premises.

Respectfully submitted,



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CLAIMS APPENDIX

The claims on appeal read as follows:

1. A cell search method for wideband code division multiple access (WCDMA) communication system, comprising the steps of:

receiving a frame of data having a predetermined number of time slots, each time slot being adjacent to another time slot;

receiving a plurality of data symbols in each respective time slot; and

receiving each of a primary, a secondary and a tertiary synchronization code over respective adjacent channels during a first symbol time in each of said predetermined number of time slots.

2. A method as in claim 1, wherein the secondary and the tertiary synchronization codes identify a subset of codes.

3. A method as in claim 2, wherein the secondary and tertiary synchronization codes are formed from a predetermined order of synchronization code elements, the predetermined order corresponding to the subset of codes.

4. A method as in claim 1, wherein the secondary and tertiary synchronization codes are formed from a predetermined order of common synchronization code elements.

5. A method as in claim 1, wherein a mobile receiver identifies a first time slot of the frame by the tertiary synchronization code.

13. A method, comprising the steps of:

transmitting a frame of data having a predetermined number of time slots, each time slot being adjacent to another time slot;

transmitting a plurality of data symbols in each of said time slots; and

transmitting a primary, a secondary and a tertiary synchronization code over respective adjacent channels during a first symbol time in each of said time slots.

14. A method as in claim 13, wherein the secondary and the tertiary synchronization codes identify a subset of codes.

15. A method as in claim 14, wherein the secondary and tertiary synchronization codes are formed from a predetermined order of synchronization code elements, the predetermined order corresponding to the subset of codes.

16. A method as in claim 13, wherein the secondary and tertiary synchronization codes are formed from a predetermined order of common synchronization code elements.

17. A method as in claim 13, wherein the tertiary synchronization code order corresponds to an order of time slots in the frame.

EVIDENCE APPENDIX

Not applicable

RELATED PROCEEDINGS APPENDIX

Not applicable